

**Title** The influence of term of cultivation substrates and cultivars on chemical composition of fruit cucumber (*Cucumis sativus* L.) in greenhouse production.

**Author** Janina Gajc-Wolska, Katarzyna Kowalczyk and Bujalski Dawid

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### **Abstract**

The experiments were conducted in the greenhouses of Department of Vegetable and Medicinal Plant Warsaw University of Life Sciences. Two cultivars of greenhouse cucumber Pacto FI and Melen PI were used in this experiments. The plant were grown on three different substrates (rock wool, perlite, wood fibre) in the three times of cultivations: spring time (set 29.01.2007), summer time (set 16.05.2007) and autumn time (set 28.08.2007). In each cycle of cultivation cucumber fruit were estimated by chemical analysis. Dry matter was determined at 1040C, sugars content was measured with Luffa-Schoorl method, vitamin C content was determined using titration method, potassium and calcium contents were defined using a flame atomic absorption spectrophotometer, phosphorus content was defined with a spectrophotometer at 460 nm, nitrogen content was defined using spectrophotometric method at 540 nm, carotenoids content was determined using a spectrophotometer at 540 nm. The results showed that the highest of dry matter was obtained in the fruit from spring and summer times of cultivation and in the fruits from plants growth on rock wool. The content of total sugars was highest in the fruits from summer times of cultivation. The highest content of vitamin C was obtained in the fruit in autumn term of cultivation and in the fruits from plants growth on the wood fibre. The content of carotenoids were highest in the fruits from autumn cultivation. The lowest content of nitrogen was obtained in the fruit from spring and summer times of cultivation and in the fruits from plants growth on the perlite. The high content of phosphorus was obtained in the fruits from autumn time of cultivation and in the fruit from cultivar of Melen FI. The content of potassium and calcium were highest in the fruit from summer time of cultivation.